

Covalent Bonding Notes

Covalent Bonding – _____

***bonding non-metals to non-metals

| | | | | | | | | | | | | | | | | | | |
|----|-----------------------------------|----|----|----|----|----|----|----|----|----|-----|----|-----|----|----|----|----|------------|
| H | Metals, Nonmetals, and Metalloids | | | | | | | | | | | | | | | | He | |
| Li | Be | | | | | | | | | | | B | C | N | O | F | Ne | metals |
| Na | Mg | | | | | | | | | | | Al | Si | P | S | Cl | Ar | |
| K | Ca | Sc | Ti | V | Cr | Mn | Fe | Co | Ni | Cu | Zn | Ga | Ge | As | Se | Br | Kr | metalloids |
| Rb | Sr | Y | Zr | Nb | Mo | Tc | Ru | Rh | Pd | Ag | Cd | In | Sn | Sb | Te | I | Xe | |
| Cs | Ba | La | Hf | Ta | W | Re | Os | Ir | Pt | Au | Hg | Tl | Pb | Bi | Po | At | Rn | nonmetals |
| Fr | Ra | Ac | Rf | Db | Sg | Bh | Hs | Mt | Ds | Rg | Uub | — | Uuq | — | — | — | — | |
| | | | | | | | | | | | | | | | | | | |
| | | Ce | Pr | Nd | Pm | Sm | Eu | Gd | Tb | Dy | Ho | Er | Tm | Yb | Lu | | | |
| | | Th | Pa | U | Np | Pu | Am | Cm | Bk | Cf | Es | Fm | Md | No | Lr | | | |

Multiple bonds between atoms:

Single

Double

Triple

Longest -----> Shortest bond length

Weakest -----> Strongest bond strength

***Note: only 6 atoms can form double or triple bonds:

Most non-metals will try to get _____ (there are exceptions to every rule)

The arrangement of electrons around the _____ determines the _____ of the molecule.

| Compound | Cent. Atom | Dot Formula | # of bonding atoms | # unshared e- pairs | shape | bond angle |
|----------|------------|-------------|--------------------|---------------------|-------|------------|
|----------|------------|-------------|--------------------|---------------------|-------|------------|